CLAIMS

1. A method for preventing or delaying preterm uterine contractions in a pregnant mammal, the method comprising administering an effective amount of a compound which inhibits kinase activity, thereby resulting in decreased levels of phosphorylated ERK in the pregnant mammal, relative to an otherwise matched pregnant mammal to which the compound has not been administered.

2. The method of Claim 1 wherein the compound is an inhibitor of a mitogen-activated protein kinase kinase (MAPKK).

3. The method of Claim 2 wherein the mitogen-activated protein kinase kinase is selected from the group consisting of MEK-1 and MEK-2.

4. The method of Claim 2 wherein the inhibitor of a mitogen-activated protein kinase kinase (MAPKK) is U0126.

5. A method for preventing or delaying preterm uterine contractions in a pregnant mammal, the method comprising administering an effective amount of a compound which inhibits kinase activity, thereby resulting in decreased levels of phosphorylated caldesmon in the pregnant mammal, relative to an otherwise matched pregnant mammal to which the compound has not been administered.

6. The method of Claim 5 wherein the administration of the compound which inhibits kinase activity results in decreased levels of caldesmon phosphorylated at a C-terminal serine residue.

7. The method of Claim 6 wherein the kinase activity inhibited is the kinase activity of ERK.

8. The method of Claim 5 wherein the kinase activity inhibited is the kinase activity of a kinase selected from the group consisting of PAK and CaM kinase II.

9. The method of Claim 5 wherein the compound is an inhibitor of a mitogen-activated protein kinase kinase (MAPKK).

10. The method of Claim 9 wherein the mitogen-activated protein kinase kinase is selected from the group consisting of MEK-1 and MEK-2.

11. The method of Claim 9 wherein the inhibitor of a mitogen-activated protein kinase kinase (MAPKK) is U0126.

12. A method for preventing or delaying preterm uterine contractions in a pregnant mammal, the method comprising administering an effective amount of a compound which inhibits the binding of calmodulin to caldesmon.

13. A method for preventing or delaying preterm uterine contractions in a pregnant mammal, the method comprising administering an effective amount of a compound which activates a phosphatase enzyme, thereby resulting in decreased levels of phosphorylated caldesmon in the pregnant mammal, relative to an otherwise matched pregnant mammal to which the compound has not been administered.

14. The method of Claim 13 wherein the administration of the compound results in decreased levels of caldesmon phosphorylated at a C-terminal serine residue.

15. A method for preventing or delaying preterm uterine contractions in a pregnant mammal, the method comprising administering an effective amount of a compound which activates a phosphatase enzyme, thereby resulting in decreased levels of phosphorylated ERK in the pregnant mammal, relative to an otherwise matched pregnant mammal to which the compound has not been administered.

16. A method for preventing or delaying preterm uterine contractions in a pregnant mammal, the method comprising administering an effective amount of a compound which inhibits kinase activity, thereby resulting in decreased levels of uterine phosphorylated myosin light chain (LC20) in the pregnant mammal, relative to an otherwise matched pregnant mammal to which the compound has not been administered, the kinase activity of the RhoA/Rho-kinase being specifically excluded.

17. The method of Claim 16 wherein the compound is an inhibitor of a mitogen-activated protein kinase kinase (MAPKK).

18. The method of Claim 17 wherein the mitogen-activated protein kinase kinase is selected from the group consisting of MEK-1 and MEK-2.

19. The method of Claim 17 wherein the inhibitor of a mitogen-activated protein kinase kinase (MAPKK) is U0126.

20. A method for inducing uterine contractions in a pregnant mammal, the method comprising administering an effective amount of a compound which activates kinase activity, thereby resulting in increased levels of phosphorylated ERK in the pregnant mammal, relative to an otherwise matched pregnant mammal to which the compound has not been administered.

21. The method of Claim 20 wherein the compound is an activator of a mitogen-activated protein kinase kinase (MAPKK).

22. The method of Claim 21 wherein the mitogen-activated protein kinase kinase is selected from the group consisting of MEK-1 and MEK-2.

23. A method for inducing uterine contractions in a pregnant mammal, the method comprising administering an effective amount of a compound which activates kinase activity, thereby resulting in increased levels of phosphorylated caldesmon in the pregnant mammal, relative to an otherwise matched pregnant mammal to which the compound has not been administered.

24. The method of Claim 23 wherein the administration of the compound which activates kinase activity results in increased levels of caldesmon phosphorylated at a C-terminal serine residue.

25. The method of Claim 24 wherein the kinase activity activated is the kinase activity of ERK.

26. The method of Claim 23 wherein the kinase activity activated is the kinase activity of a kinase selected from the group consisting of PAK and CaM kinase II.

27. The method of Claim 23 wherein the compound is an activator of the mitogen-activated protein kinase kinase (MAPKK).

28. The method of Claim 27 wherein the mitogen-activated protein kinase kinase is selected from the group consisting of MEK-1 and MEK-2.

29. A method for inducing uterine contractions in a pregnant mammal, the method comprising administering an effective amount of a compound which activates the binding of calmodulin to caldesmon.

30. A method for inducing uterine contractions in a pregnant mammal, the method comprising administering an effective amount of a compound which inhibits a phosphatase enzyme, thereby resulting in increased levels of phosphorylated caldesmon in the pregnant mammal, relative to an otherwise matched pregnant mammal to which the compound has not been administered.

31. The method of Claim 30 wherein the administration of the compound results in increased levels of caldesmon phosphorylated at a C-terminal serine residue.

32. A method for inducing uterine contractions in a pregnant mammal, the method comprising administering an effective amount of a compound which inhibits a phosphatase enzyme, thereby resulting in increased levels of phosphorylated ERK in the pregnant mammal, relative to an otherwise matched pregnant mammal to which the compound has not been administered.

33. A method for inducing uterine contractions in a pregnant mammal, the method comprising administering an effective amount of a compound which activates kinase activity, thereby resulting in increased uterine levels of phosphorylated myosin light chain (LC20) in the pregnant mammal, relative to an otherwise matched pregnant mammal to which the compound has not been administered, the kinase activity of the RhoA/Rho-kinase being specifically excluded.

34. The method of Claim 33 wherein the compound is an activator of a mitogen-activated protein kinase kinase (MAPKK).

35. The method of Claim 34 wherein the mitogen-activated protein kinase kinase is selected from the group consisting of MEK-1 and MEK-2.